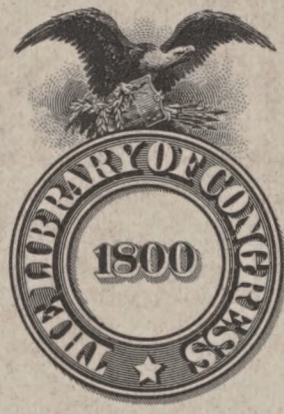
PARLOR PROBLEMS

OR

MENTAL MATHEMATICAL MAGIC

BY

PRESTON LANGLEY HICKEY



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BY

PRESTON LANGLEY HICKEY

AUTHOR OF

"PRACTICAL DRAWING ROOM CLUB AND STAGE PATTER," ETC.

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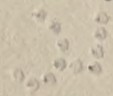

DEDICATION

To my four friends Collins Pentz, Raymond Erickson, Ira Olson and Jack Makiesky, I take great pleasure in dedicating this small offering to the already vast world of literature devoted to the art of entertaining.

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INTRODUCTION

Nearly every person of normal faculties attends parties and social gatherings. As a rule some sort of a little entertainment is given. Some one will sing, speak a piece or play some instrument. While they are very fine, and it takes long practise to become accomplished in these lines, people are constantly on the look out for something new.

Parlor Problems, is therefore offered to the public as something new. Become an efficient entertainer in something outside of the beaten path and you materially increase your popularity.

Master the few effects herein contained, and you are master of the situation as an original entertainer presenting something entirely different from the accomplishments of the general public.

Besides being amusing, puzzling and astonishing, the problems of which the book is made up, will give you an insight into an angle of mathematics, that, perhaps, you never before knew existed.

The little problems of lightning addition and multiplication herein contained, are something that no grade, high, business school or college

professor in the country make a practise of teaching. Very few of them know these secrets and if they do they reserve them for themselves.

With a little serious study and concentration you will soon master the following problems, which will not only prove of satisfaction to yourself, but will amuse your friends and increase your own popularity.

THE AUTHOR.

"Harmon Place"
Minneapolis, Minnesota.
Feb. 1920

CHAPTER ONE

The Basic Number

It is especially important that the student of this little treatise should read thoroughly and very carefully this first chapter, "The Basic Number", if he is to free himself of a lot of unnecessary confusion as to the Why and How the following problems are brought to their final and correct solutions.

The whole thing in a nut shell, so to speak, is that there really is no Why and How. Practically speaking, the problems just work themselves out, and with the only exception of careless or intentional mistakes, they are always correct. (By intentional mistakes, I mean those who perhaps would endeavor to spoil your trick or belittle you. The world is full of these kind of people.)

However, there is just one little thing that while it will not in any manner simplify the working principles (a simplified method is not necessary) of the forthcoming, it is well for the student to know.

Every type of arithmetic known is based on

what is termed the basic figure or number. That is the figure nine (9).

The figure 9 is constantly being employed by large corporations, where a great deal of mathematical work is done, especially banks, to straighten out accounts wherein mistakes have occurred.

Give an expert accountant a report, that contains some kind of a miscalculation, and with the figure 9 he will eventually ferret out the mistake regardless of how glaring or complex it may be.

With but one exception, the tricks and rapid calculations contained in this little booklet, are accomplished with the use of the figure 9 in some manner or other, either directly or indirectly.

Perhaps there are some who have thought deeply enough to explain why this is, but as I have heard so many such explanations, no two of which have been the same, I place little faith in them.

This is a good point to remember, though, in case some one should spring a mathematical problem of the type that are in this book on you, go to work with your basic figure 9 and the chances are ten to one that you will discover their secret.

CHAPTER TWO

Lightning Addition

The following experiment though so simple as to be almost laughable can be worked innumerable times without fear of detection, unless viewed by someone who perhaps has read its secret.

Request one of your spectators to give you three numbers, each containing four figures. We will assume, as an illustration, that they are the following; 2956-5840-6753. Put these down in regular addition order, and explain that you will add a couple of numbers of your own and instantly tell them what the sum is. You then write down two four figure numbers, 4159 and 3246. Quick as a flash, without so much as glancing at the numbers, you write down the total which will be 22954.

Observe carefully the five figures which I have set down in regular addition form, so that I may explain more comprehensively the method by which this clever little experiment is accomplished.

Spectator's	-	2	9	5	6	- figure
"	-	5	8	4	0	- "
"	-	6	7	5	3	- "
Your	-	4	1	5	9	- "
"	-	3	2	4	6	- "
Total	-	2	2,9	5	4	

The first three figures from the top are the ones given you by the spectator. The last two are your own. I have selected the first figure from which to form my answer, therefore the secret lies in the first figure of the spectator's and the two I put down myself.

Leaving the first number your spectator gave you, for a moment, I would call your attention to the last four. The second and third are the other two you were instructed to write down; while the fourth and fifth are your own. Take a pencil and draw lines connecting the second and fourth numbers, and also lines connecting the third and fifth. Take the numbers individually and you will find that the first figure of the second number and the first figure of the fourth number added together equal nine.

The second figures of these numbers added also equal 9, and so on. With the third and fifth numbers, the individual figures of the third added with the individual figures of the fifth, the result will be the same.

To procure the answer, take the first number,

2956, subtract 2 from the last figure which is 6 and place it in front of the first number which is 2. This gives you 22,954 which is the correct answer. It never fails.

The reason that you subtract 2 from the last figure of the first number is because you have two sets of figures that total nine. If you had only one set you would merely subtract 1. (A problem with only 1 set of nines, would naturally be worked with three numbers instead of five.) On the other hand, if you had three sets of nines you would subtract three from the last number and place it in front of the first.

Any one of the three figures that the spectators give you can be used to get your answer. You will merely have to match up the other two into sets of nines.

In some instances you might be working the problem with five number figures instead of four. It is possible that the figure you have selected for your answer will end in a double ought (0). Take for instance 35,900.

As it is impossible to subtract anything from 0 you would have to take the number 3-2-1 or whatever it is, according to the number of sets of nines you have lined up, from the first number to the left of the oughts, including them. If you are to subtract the number 2, you will have to take 2 away from 900. Thus your answer derived from 35,900 will be 235,898.

Additional surprise and astonishment can be produced, by writing down what your answer is to be after the first figure has been called by your spectator. The reader will readily see how easily this can be accomplished. All that is necessary is to figure before hand how many sets of nines you are going to have and then subtract this amount from the first figure, as has been explained.

Lightning Multiplication

On a sheet of paper write down the two largest single numbers possible which will, of course, be 99. Then request one of your spectators to give you any two numbers smaller than the ones you have written down, and you will show them a feat of rapid multiplication. As an easy example we will assume that they give you 75. Place the 75 under the 99, and immediately write out your answer which will be 7425.

This is purely a problem of elimination. Using the above figures as an example, read carefully the following. Although the answer gained will be that of the two figures multiplied, the trick is accomplished by a process of subtraction.

Place your 99 down with the 75 under it.

99
75

Then subtract your 75 from 100 which will

leave 25. The 25 will be the first two figures of your product.

99
75

25

For the final step of the problem subtract 1 from the 75 which leaves 74. This is placed as the first two figures of the product, thus giving you the same total as though you had multiplied them.

99
75

7425

If the figures are 99 and 65, the process is the same. Sixty five from 100 leaves 35. Subtract 1 from 65 and you have 64. Thus your final product of 99 multiplied by 65 will be 6435.

The only quick work required is to be able to instantly subtract the figure that your spectator gives you from 100 in your mind.

Cross Out Number Trick

In the following the performer explains to his audience that he is going to accomplish a feat by "mental concentration." This of course will be laughed at by the "wise" spectator, because there is no mental concentration about it, but as

the trick is too easily done to be caught at it, why not add more mystery to the effect by stringing your audience a little. It does no harm to say the least, and if anyone is "chump" enough to take you seriously, that is their fault not yours.

Have some one set down any four numbers in a row. For example, 2-6-8 7. Then request them to add the numbers together and set down their total. The above four figures added together will make a total of 23. After this has been done have them go back and cross out any one of the four figures that they feel inclined to. Take for instance 6 is crossed out. Make dash thru figure 6. Then have them write down the remaining three figures so as to form a solid figure; which will be 287. When this has been accomplished, ask them to subtract the added total, which was 23 from the remaining three figures. Twenty-three from 287 leaves a remainder of 264. Then have them take the numbers of the remainder individually and add them together. 2-6-4 added will make 12.

During this entire operation your back has been turned so as not to see what figures have been written down, and which one was scratched out. Ask your spectator to tell you what his final answer is and you will tell him what figure is marked out. He complies with your request and instantly you tell him which one it was that was crossed. In this instance, it was the figure 6.

The following is the manner in which this should look when completely set down on paper.

2-6-8-7—23
287
23

264—12

The method of determining what figure has been crossed out is exceedingly simple.

The entire secret is based on what the next multiple of 9 above the final answer is. In the illustration herein contained 12 is the final answer. The next multiple of 9 above 12 is 18. You then subtract your final answer from the next multiple of 9, and the difference will be the figure that has been crossed out. Twelve subtracted from 18 leaves 6. Six was the figure crossed out. If the first answer should be 8, subtract 8 from the next multiple of 9, which would naturally enough be 9. The remainder would be 1. One would be the number that had been crossed out.

There is only one final answer that might stick you and that is a multiple itself. If the answer is a 9 or 18 there are two possible numerals that they might have crossed out. It is either a 9 or a 0. I have been caught this way several times, and have always answered that they crossed out an 0. It has always been correct. The chances

are that in 99 out of every 100 instances wherein the final answer is either 9 or 18 that the numeral crossed out is a 0.

Even though you should make an error in this case, the trick is so good that an occasional mistake is excusable.

Multiplication Extraordinary

Place before your spectators a sheet of paper on which you have written the figures 1 to 9, excluding the 8. That is, in this manner 1-2-3-4-5-6-7-9. Ask one of them to select any one of the numbers. Some one selects number 6. Tell them to take the above row of figures as a whole number, multiply it by 54, and the answer will be 666,666,666.

You will note that every figure in the answer is the same as was selected. To prove this for your own benefit, I will work it out here.

```
  12345679
        54
 ----------
  49382716
  61728395
 ----------
 666,666,666
```

This is accomplished by mentally multiplying the number they select by the highest figure in

the number, which is 9, and then multiplying the entire number by that result.

If the figure selected was four (4), you would multiply the entire number by 4 times nine (9) which is 36. If it was 5 the multiplier would be 5 times 9 which is 45, and so on.

Forty-Five From Forty-Five

Write down the figure 45 and ask your spectators if they can take 45 from 45 and still have 45 left. Explain to them that they are allowed to split the number up into as many smaller numbers as they desire to, but the figures of the final difference added together must make 45. They will, in all probability, have to give it up. Here is the way to do it.

9-8-7-6-5-4-3-2-1—45
1-2-3-4-5-6-7-8-9—45

8-6-4-1-9-7-5-3-2—45

The minuend and subtrahend are made up of exactly the same figures only the minuend is reversed. The difference of the two also contains exactly the same figures. The individual figures of each added together will give you 45. Note the above.

The Mental Number Trick

Request some one to think of a number but caution him to keep it to himself and not tell you. Then have him double it. When this is done ask him to add, say—10. Then tell him to take half of it. When he has also done this, tell him to take away the number he thought of in the first place, and quick as a flash you tell him what he has left. In this case it will be five (5).

Regardless of what the spectator thinks of, his final answer will always be just half of the number you tell him to add.

As an illustration. Suppose he thinks of 25. Tell him to double his number which will be fifty (50). Then ask him to add 10. This will make a total answer of 60. Have him take half of it which leaves 30. Then request him to take away the number he thought of in the first place, which was 25, and his answer will be 5. This being just half the amount you told him to add.

If you tell him to add 6 his answer will be 3. If 14 was the number you gave him 7 would be the result. This can also be worked out in a fraction. That is if you request him to add 7, he would have 3½ left after the final deduction had been made.

A Salary Increase

The following is not a trick, and is not supposed to mystify or create astonishment. It is

merely a little mathematical calculation from which much amusement can be derived.

A young Jewish man worked in the clothing store of another Jewish personage. He was receiving a modest salary for his work, but he felt that he was not getting his right dues. So one morning he approached his employer with a request for more wages. The employer thought for a moment, then motioned the young man to a chair. When the young man had seated himself, the employer picked up a pencil and began.

"Isaac, in an ordinary year there are 365 days. Am I not right?"

The other nodded.

"Well, this being leap year there are 366 days," and he wrote this down. "Now Isaac, you work a third of your time, play a third of your time, and sleep the other third. Isn't that so?"

The other agreed wondering what all this had to do with his request for higher pay.

"Well then, you only work one third of your time, don't you?"

"Yes."

"One third of 366 days is 122 days, that is the time you spend in actual work. Now there are 4 legal holidays every year, Christmas, New Years, Fourth of July and Thanksgiving. On these days you do not work, do you?"

"No."

"Very well, we will take 4 more days for holi-

days away from the 122 days of actual work you do, and that leaves 118 days. Alright, Jewish people never work on Saturday. There are 52 Saturdays in every year, and taking 52 from 118 leaves a remainder of 66 days. Our store is never open Sundays Isaac, and as there are also 52 Sundays in a year, we will subtract that amount from 66, which leaves just 14 days.

"Now Isaac, my boy, I am pretty liberal with you. Don't I give you two weeks vacation every summer?"

"Yes," replied the other.

"Good. Now you subtract the two weeks, which is fourteen days from the 14 days you have left and you have nothing. No Isaac my boy, you aren't working at all according to this, and don't need a raise. Go back to your work and be content."

And Isaac went.

* * *

This little mathematical monologue, for that is what it is, will always prove popular wherever you show it. The conversation I have given above is just for an outline. You should take a piece of paper and as you are telling the story keep jotting the figures down at the proper time for their introduction. When complete, the diagram should look as follows, without the explanatory writing.

365 days in ordinary years
Wk one third of time. 3)366(" " Leap "

122=days of actual labor
4=National holidays

118
52=Saturdays, store closed

66
52=Sundays

14
14=Two weeks' vacation

Total 00

CHAPTER THREE

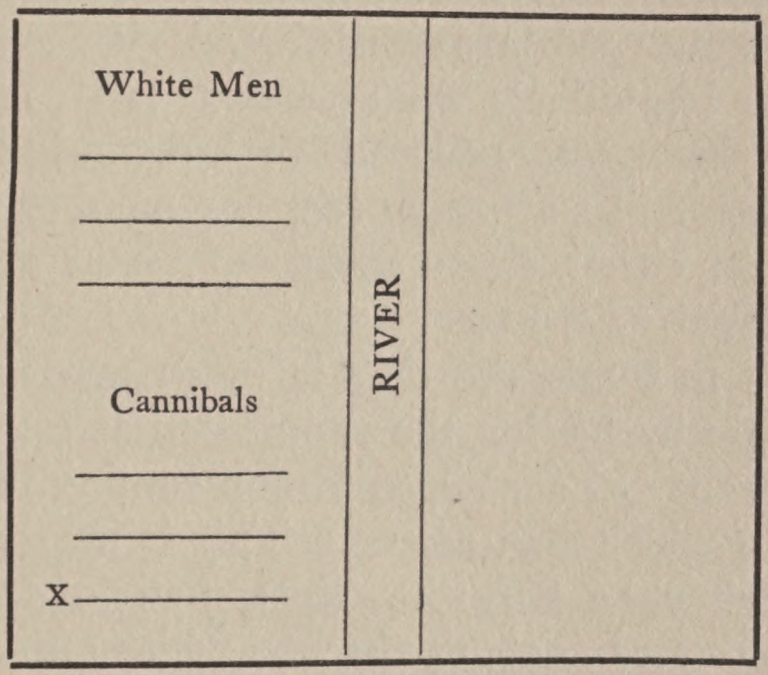
The Cannibals And White Men

If we should attempt to estimate the number of puzzles that there are in existence at the present time I dare say that they would run into the tens of thousands. Some are excellent. Others are mediocre; while still others, the greatest majority of all, are worthless.

Among the first class is one, so good, and so almost impossible to work unless you are on to it, that I am setting it down here for your approval. It is so catchy, that even after you are once familiar with the right moves, you will find yourself stumped, when it comes to accomplishing it, until you have a thorough working picture of the layout in your mind. You can even offer a dollar as a prize to anyone who can successfully accomplish it under the rules. The offering of the money makes it harder still for the victim, as his mind is divided between the puzzle and the expectancy of victory, where if there were no inducement his whole attention would be centered on the one thing.

On a sheet of paper draw two straight parallel

lines about three inches apart to represent a river. Lay three matches and three toothpicks on one "shore." See figure.



X Represents cannibal who can paddle.

Explain to your spectators that the three matches represent white men, and the three toothpicks represent cannibals. Also inform them that the whole party are desirous of getting across the river, but that owing to the smallness of the canoe, only two persons can go at a time. All three white men can paddle, but only one cannibal knows how. (It is advisable to place a pencil mark on the match or toothpick that represents the cannibal who can paddle). One cannibal can

be left with two or all of the white men, and one white man and one cannibal may be left together, but owing to the extremely vicious nature of the cannibals, one white man cannot be left with two cannibals, or two white men with three cannibals, because the aforementioned vicious natures of these individuals would assert itself, and they would forthwith proceed to kill and eat the white men. In other words, the number of cannibals on either shore must not be in excess of the number of whites.

Here is a mistake that is often made. They will begin by having the cannibal that can paddle take a cannibal across, and then coming back and taking a white man across. This is incorrect, because when he gets the white man over, there will be two canibals to the one white man. Your spectator will, in all probability, make the reply that he had intended bringing the cannibal right back with the canoe, but that doesn't count. The fact remains that there are two of them there with the one white man.

As soon as they have tired themselves out and have distorted their minds in the attempt, you do it for them. Read the following carefully. It is best to have the material before you, and make each move as you read it, until you have a thorough mental picture of each step.

1st move. The cannibal that can paddle takes one of the other cannibals over and comes back.

2nd move. He then takes the other cannibal across and returns. This leaves the three white men and the cannibal that can paddle on one side, and two cannibals on the other side of the river.

3rd move. Two white men then go over.

4th move. A white man and a cannibal come back.

5th and 6th moves. The same white man then takes the cannibal that can paddle over, and brings the other cannibal back.

This leaves the canoe, two white men and the two cannibals that can't paddle on this side of the river, and one white man and the cannibal that can paddle on the other side.

7th move. The two remaining white men go over, leaving the two cannibals on this side.

8th move. The cannibal that can paddle then makes two trips bringing one of his fellow men over each time.

Study over the above, and read it several times carefully and you will quickly become acquainted with the moves.

Much amusement is often caused by offering a prize to the one who can do the stunt. In most cases the spectator will give up after a few trials with a remark such as this: "Why shouldn't you offer us a prize?—the thing can't be done." Whereupon you prove to him that it can be done and very easily at that.

AFTERWORD

Once more I pause, and lay down my pen. My present task, the writing of Parlor Problems is complete. Short as is the little volume, my work has been very pleasant. I cannot but feel that in these few pages I have set before the reading public some new principles in the art of entertaining, that may be of benefit to them. If so I shall be satisfied. If not, my effort has been in vain.

To my many friends both personal and otherwise who so graciously received my former booklets, I extend my heartfelt appreciation, with the hope that this also will be given a like reception.

Therefore, I, like the late Angelo K. Louis (Professor Hoffman), bid you all not good bye but Au Revoir for the present.

Fraternally yours,
PRESTON LANGLEY HICKEY.

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